

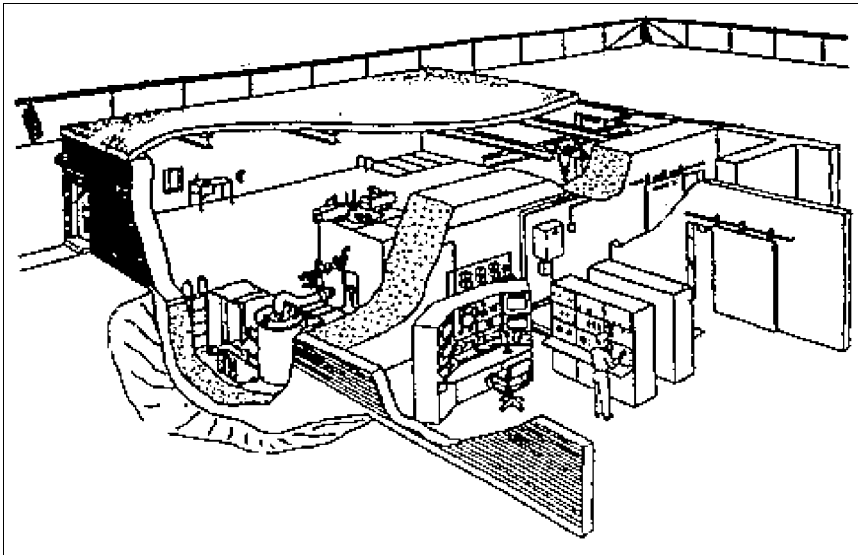
---

# **Argonne Thermal Source Reactor D&D Project**

---

---

## Argonne Thermal Source Reactor D&D



The Argonne Thermal Source Reactor (ATSR) facility was located in Bldg. 316. The light-water moderated reactor was fueled with highly enriched (93.5%) Uranium-235 and was capable of operating at 10 kW for sustained periods. D&D work was contracted to MOTA Corporation (Columbia SC) in July 1998, and D&D activities began July 29.

---

## Argonne Thermal Source Reactor D&D



During facility characterization, loose flaking lead-based paint was identified in the ATSR control room. Peel Away™ paint remover was applied to the walls, and the paint was stripped away. Paint residue was collected on paper and rags, and packaged as hazardous waste. The walls were repainted with latex paint to prevent any additional flaking, as shown in this photo (ANL Neg. No. 24571K, Frame 6A).

---

---

## Argonne Thermal Source Reactor D&D



Approximately 20,000 lbs. of activated and contaminated lead were present inside the ATSR facility. The lead was stacked on pallets prior to packaging into B-12 metal bins. The material was transferred to ANL Waste Management Operations for storage as mixed waste (ANL Neg. No. 24571K, Frame 15A).

---

## Argonne Thermal Source Reactor D&D

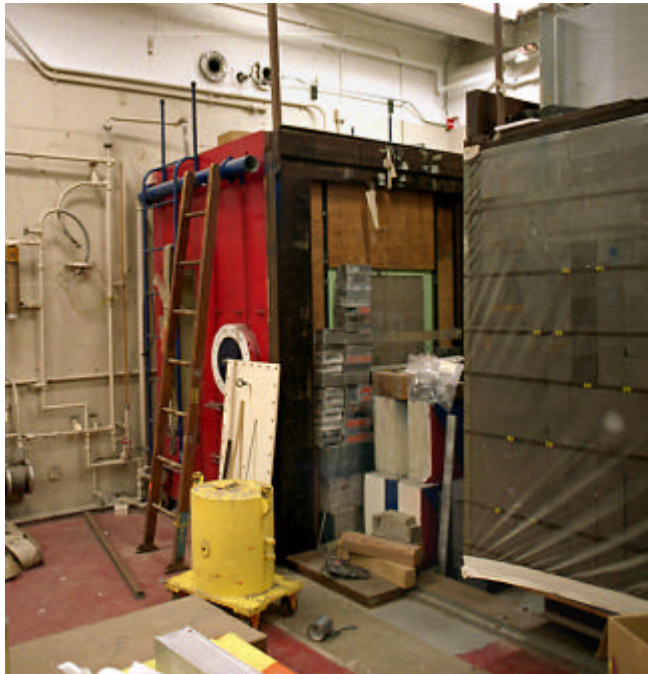


Two piles of graphite were found in the facility, the ATSR graphite pile and graphite from the original Chicago Pile-1 (CP-1) reactor that was being stored at ATSR. These piles were unstacked and packaged into waste containers for disposal as low-level radioactive waste. This photo shows D&D technicians packaging graphite from CP-1 (ANL Neg. No. 24572K, Frame 26A).



---

## Argonne Thermal Source Reactor D&D



These photos show the Argonne Thermal Source Reactor prior to and during removal operations. Surrounding the ATSR core tank were 6 inches on lead shielding. After removing the shield tank covers, the lead block shielding was removed from around the core tank and packaged as mixed waste. Removal of the reactor and shield tank involved the disassembly, size reduction, and packaging as low-level radioactive waste, the reactor internals, core tank, and shield tank (ANL Neg Nos. 23988K, Frame 1, and 24637K, Frame 19A).

---

---

## Argonne Thermal Source Reactor D&D



A Snell block was used to obtain fast-reactor-like fluxes of neutrons for research purposes. The block was installed on rail-mounted tables and could be positioned next to the leakage face of the reactor. This photo shows a Snell block table that was located in the ATSR facility. It was dismantled, size reduced, and packaged for disposal as low-level radioactive waste (ANL Neg. No. 23988K, Frame 29).

---

---

## Argonne Thermal Source Reactor D&D



Twenty activated concrete shield blocks were removed and packaged as low-level radioactive waste. ANL safety procedures required a lift plan and special rigging due to the absence of the facility's original lifting and rigging equipment (ANL Neg. No. 23988K, Frame 33).



---

## Argonne Thermal Source Reactor D&D



Steel floor tracks for the ATSR and the rail-mounted Snell block tables were removed, size reduced, and packaged as low-level radioactive waste (ANL Neg. No. 23988K, Frame 30).

---

## Argonne Thermal Source Reactor D&D



The reactor dump tank, located in a floor pit just north of the reactor, was rigged and lifted from the floor pit, size reduced, and packaged as low-level radioactive waste (ANL Neg. No. 23988K, Frame 12).

---

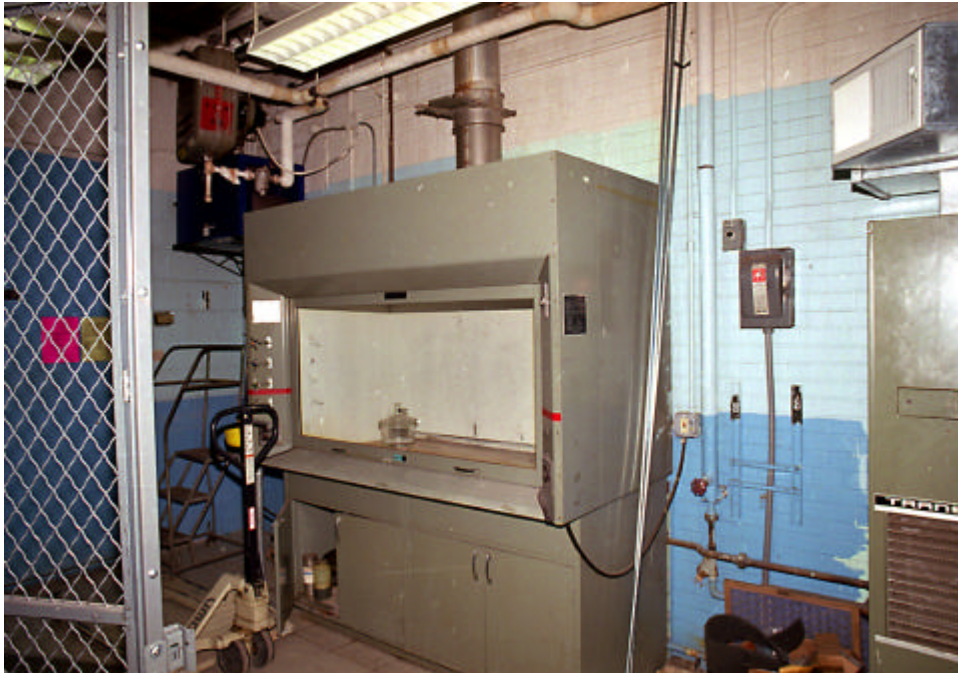
## Argonne Thermal Source Reactor D&D



The fuel storage pit contained a large quantity of miscellaneous equipment and material. The pit was emptied and the material packaged as low-level radioactive waste (ANL Neg. No. 23988K, Frame 26).

---

## Argonne Thermal Source Reactor D&D



The fume hood was disconnected from existing services (air, electrical, HEPA ventilation), relocated to a contamination control area, and size reduced and packaged as low-level radioactive waste (ANL Neg. No. 23988K, Frame 5).



---

## Argonne Thermal Source Reactor D&D



D&D activities were completed in September. The following photos show the post-D&D condition of the ATSR facility control room and the reactor room area looking northeast (ANL Neg. Nos. 24748K, Frame 9, and 24748K, Frame 10).

---



---

## Argonne Thermal Source Reactor D&D



These photos show the post-D&D condition of the ATSR dump tank pit and the fuel storage pit (ANL Neg. Nos. 24748K, Frame 15, and 24748K, Frame 16).

---